

Capstone Project - The Battle of Neighborhoods

Introduction

New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.

Throughout its history, New York City has been a major point of entry for immigrants; the term "melting pot" was coined to describe densely populated immigrant neighborhoods on the Lower East Side. As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. English remains the most widely spoken language, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and/or have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona.

With its diverse culture, comes diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Indian, French etc.

So as part of this project, we will list and visualize all major parts of New York City that has great Indian restaurants.

Target Audience

This project is particularly useful to someone looking to try good Indian food in NY city neighbourhood as well as guiding & comparing the current population of good Indian restaurants and potential for a right choice place to start a new one. The current restaurant owners can also look at it and make changes to improve food quality etc to get better ratings.

Data

For this project we need the following data :

- New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.
 - Data source : https://cocl.us/new_york_dataset
 - Description : This data set contains the required information. And we will use this data set to explore various neighborhoods of new york city.
- Indian restaurants in each neighborhood of new york city.
 - Data source : Foursquare API
 - Description : By using this api we will get all the venues in each neighborhood. We can filter these venues to get only indian restaurants.
- GeoSpace data
 - Data source : <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>
 - Description : By using this geo space data we will get the New york Borough boundaries that will help us visualize choropleth map.

Questions that can be asked using the above mentioned datasets

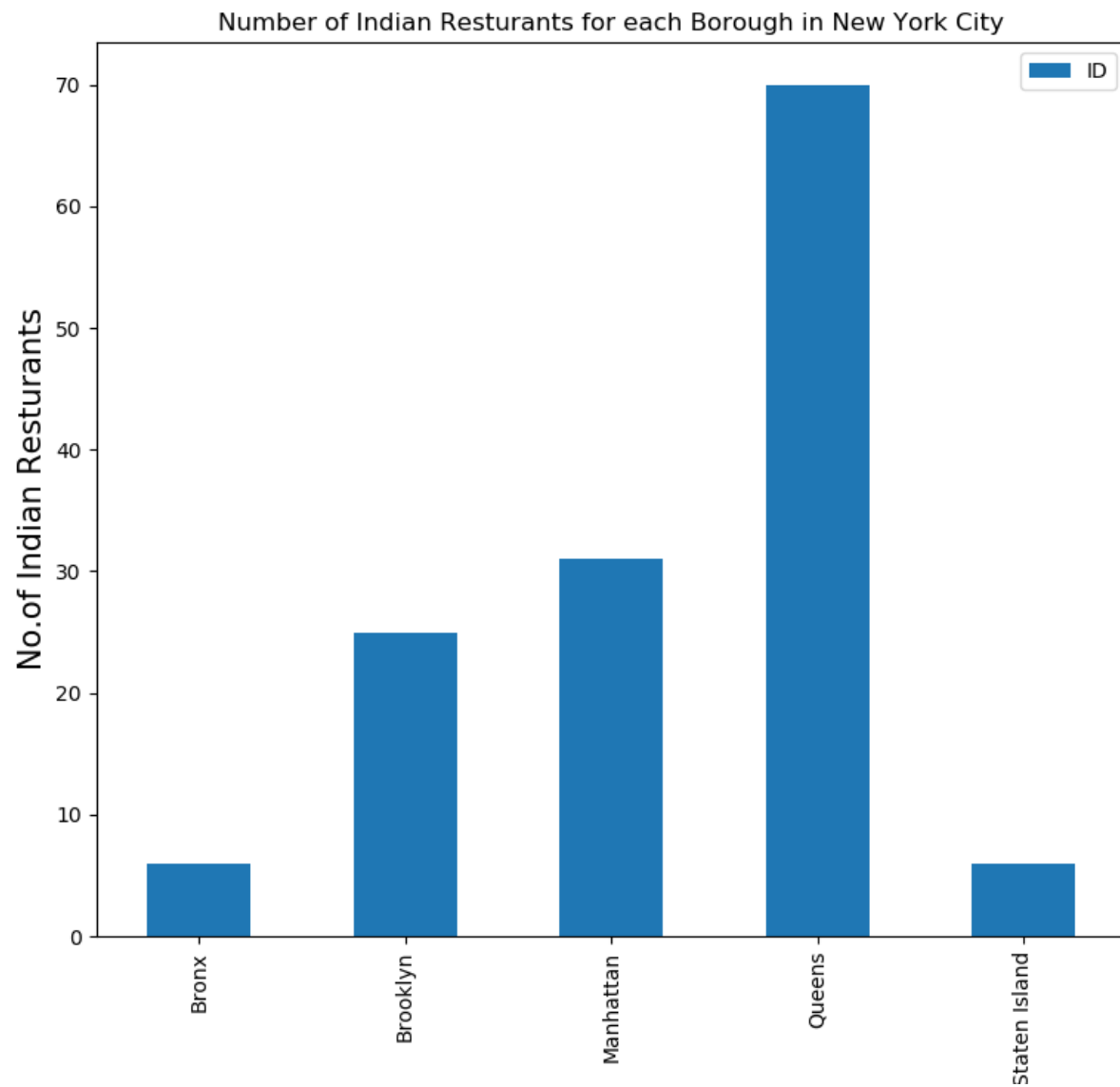
- What is best location in New York City for Indian Cuisine ?
- Which areas have potential Indian Restaurant Market ?
- Which all areas lack Indian Restaurants ?
- Which is the best place to stay if I prefer Indian Cuisine ?

Methodology/ Approach

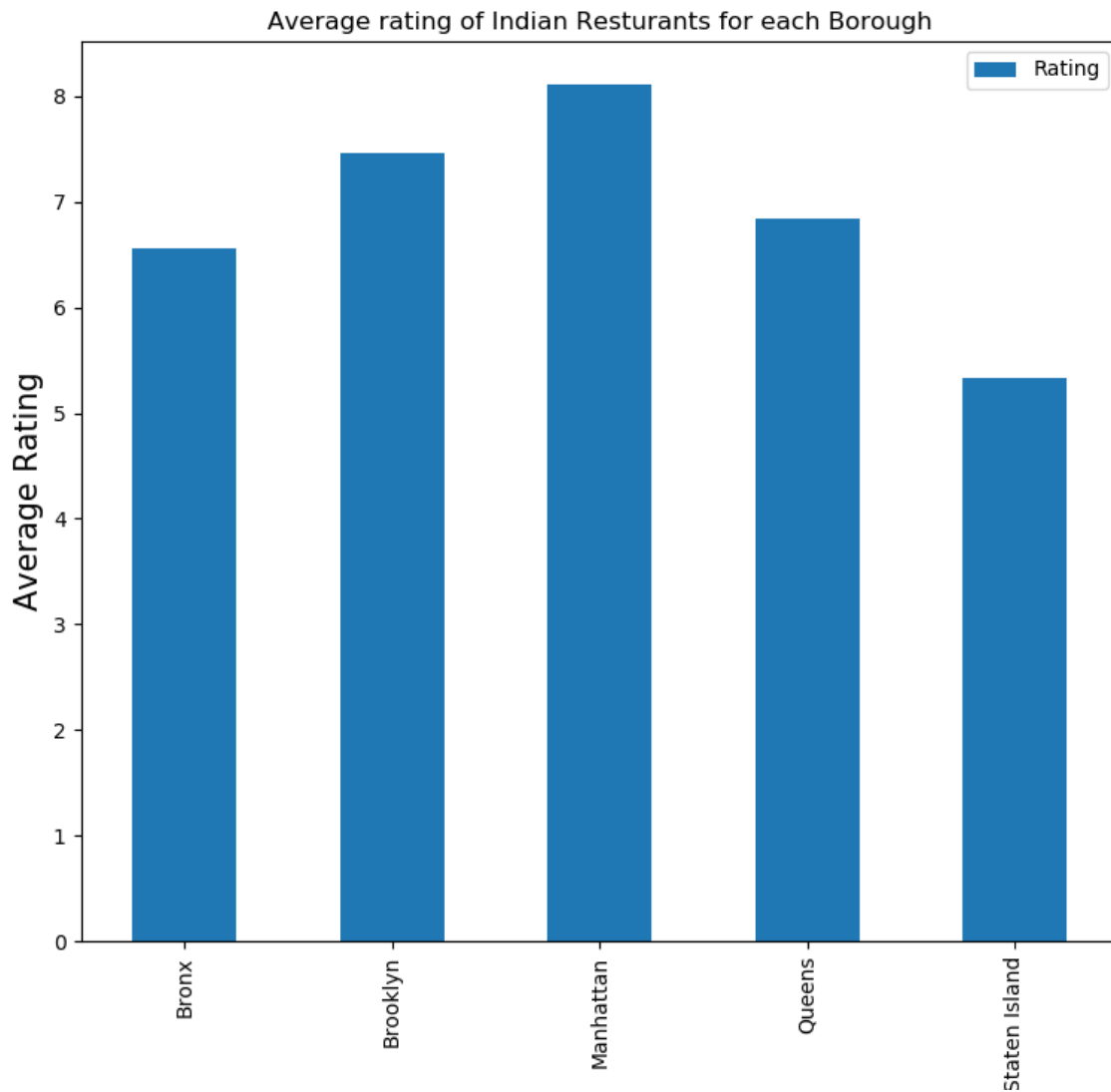
- Collect the new york city data from https://cocl.us/new_york_dataset (https://cocl.us/new_york_dataset)
- Using FourSquare API we will find all venues for each neighborhood.
- Filter out all venues that are Indian Restaurants.
- Find rating, tips and like count for each Indian Restaurants using FourSquare API.
- Using rating for each restaurant, we will sort that data.
- Visualize the Ranking of neighborhoods using folium library

Results

- The results from different plots and ranking data as below shows that **Queen** has most number of Indian restras and hence more competition.



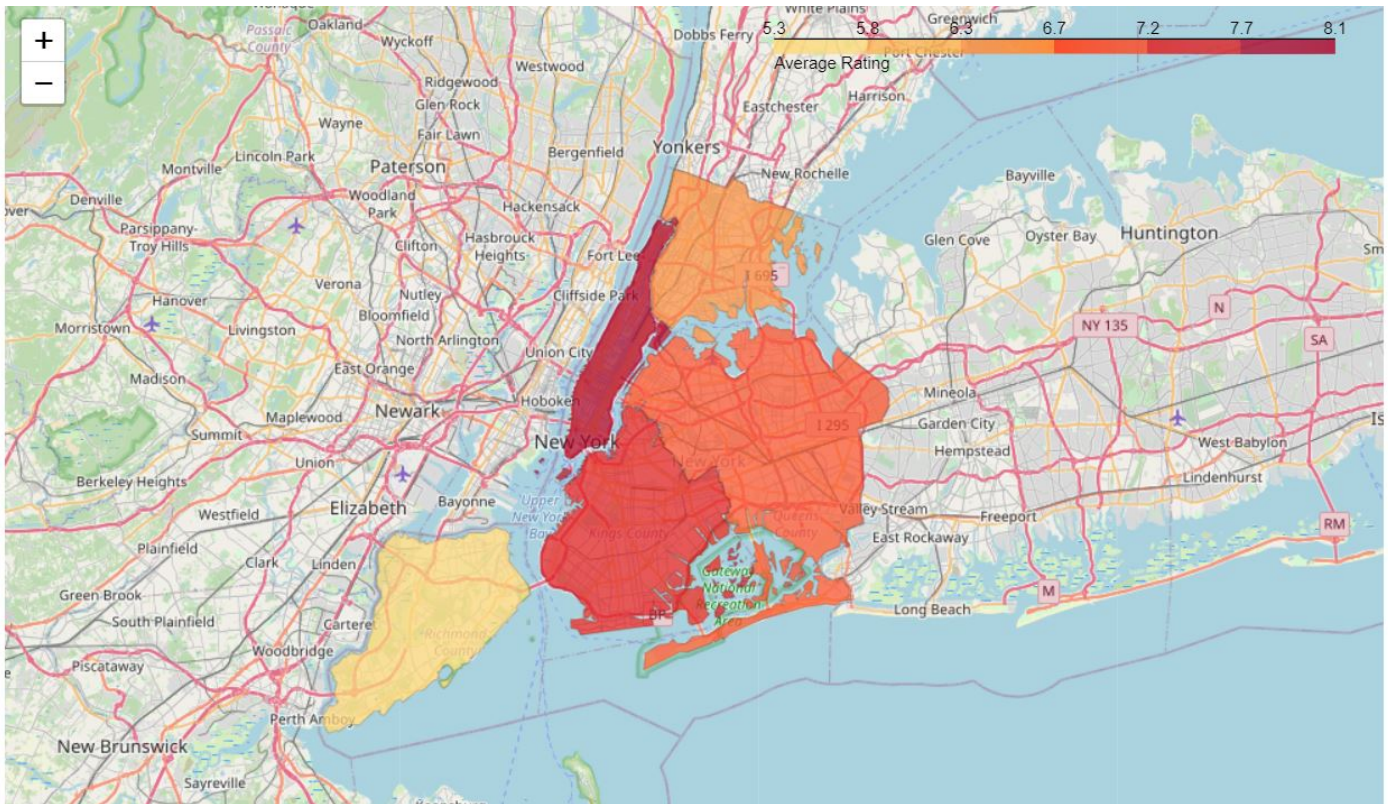
- This one shows that the average rating is higher in **Manhattan** so one can find excellent Indian food easily around this place.



The saved image can be downloaded at :

https://github.com/sonu1311/Coursera_Capstone/blob/master/notebooks/borough_rating.html

(https://github.com/sonu1311/Coursera_Capstone/blob/master/notebooks/borough_rating.html)



Discussions

- As observations noted from the map in the Results section, there is shortage of good Indian restras in the Staten island area opening a scope of improvment from current restras and possibly new restra options as this is one of the place which has least number indian restras.
- We can improve this analysis further to include the demographic information and number of visitors comes and seek Indian food.

Conclusion

- Astoria(Queens), Blissville(Queens), Civic Center(Manhattan) are some of the best neighborhoods for indian cuisine.
- Manhattan have potential Indian Resturant Market
- Staten Island ranks last in average rating of Indian Resturants.
- Manhattan is the best place (based on average ratings) to stay if you prefer Indian Cuisine.

Limitations

- The ranking is purely on basis of rating of restaurants
- The accuracy of data depends purely depends on the data provided by FourSquare